

NETWORK DEVICE INTERFACE FOR DIGITALLY INTERFACING DATA CHANNELS TO A CONTROLLER VIA A NETWORK

ABSTRACT OF THE DISCLOSURE

5 The present invention provides a network device interface and method for digitally connecting a plurality of data channels, such as sensors, actuators, and subsystems, to a controller using a network bus. The network device interface interprets commands and data received from the controller and polls the data channels in accordance with these commands. Specifically, the network device interface
10 receives digital commands and data from the controller, and based on these commands and data, communicates with the data channels to either retrieve data in the case of a sensor or send data to activate an actuator. Data retrieved from the sensor is converted into digital signals and transmitted to the controller. In some embodiments, network device interfaces associated with different data channels
15 coordinate communications with the other interfaces based on either a transition in a command message sent by the bus controller or a synchronous clock signal.

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